

ABSTRACT OF THE DISCLOSURE

A projection exposure apparatus includes an illumination system, a projection optical system for projecting a pattern on a substrate, a holding portion 5 for holding a first mask having a first transmission portion between the illumination system and the projection optical system, a second mask which is arranged near the image-side focal position of the projection optical system and has a second transmission 10 portion, and an actuator for driving the second mask in a plane perpendicular to the optical axis of the projection optical system. The projection exposure apparatus further includes a measurement device for measuring a change in intensity of light which is 15 emitted by the illumination system and passes through the first transmission portion, the projection optical system, and the second transmission portion while the actuator drives the second mask, and an arithmetic device for calculating the wavefront aberration of the 20 projection optical system on the basis of the measurement result of the measurement device.

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